FIG. 1

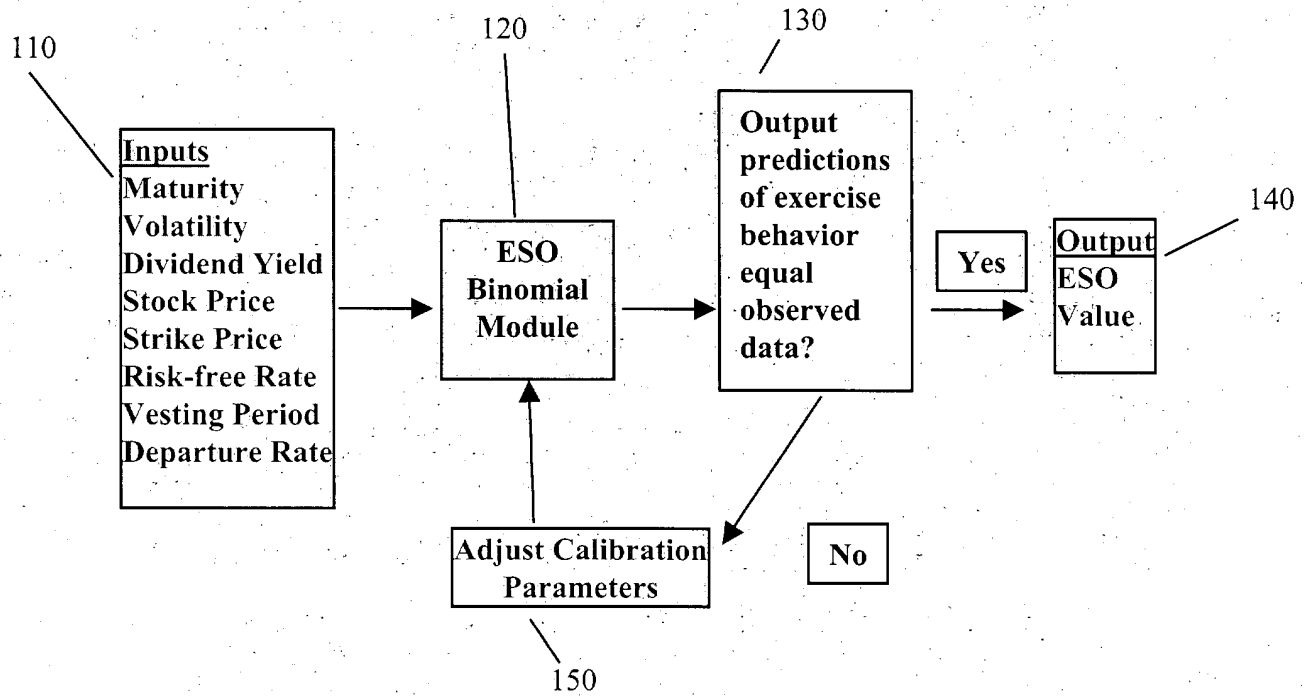
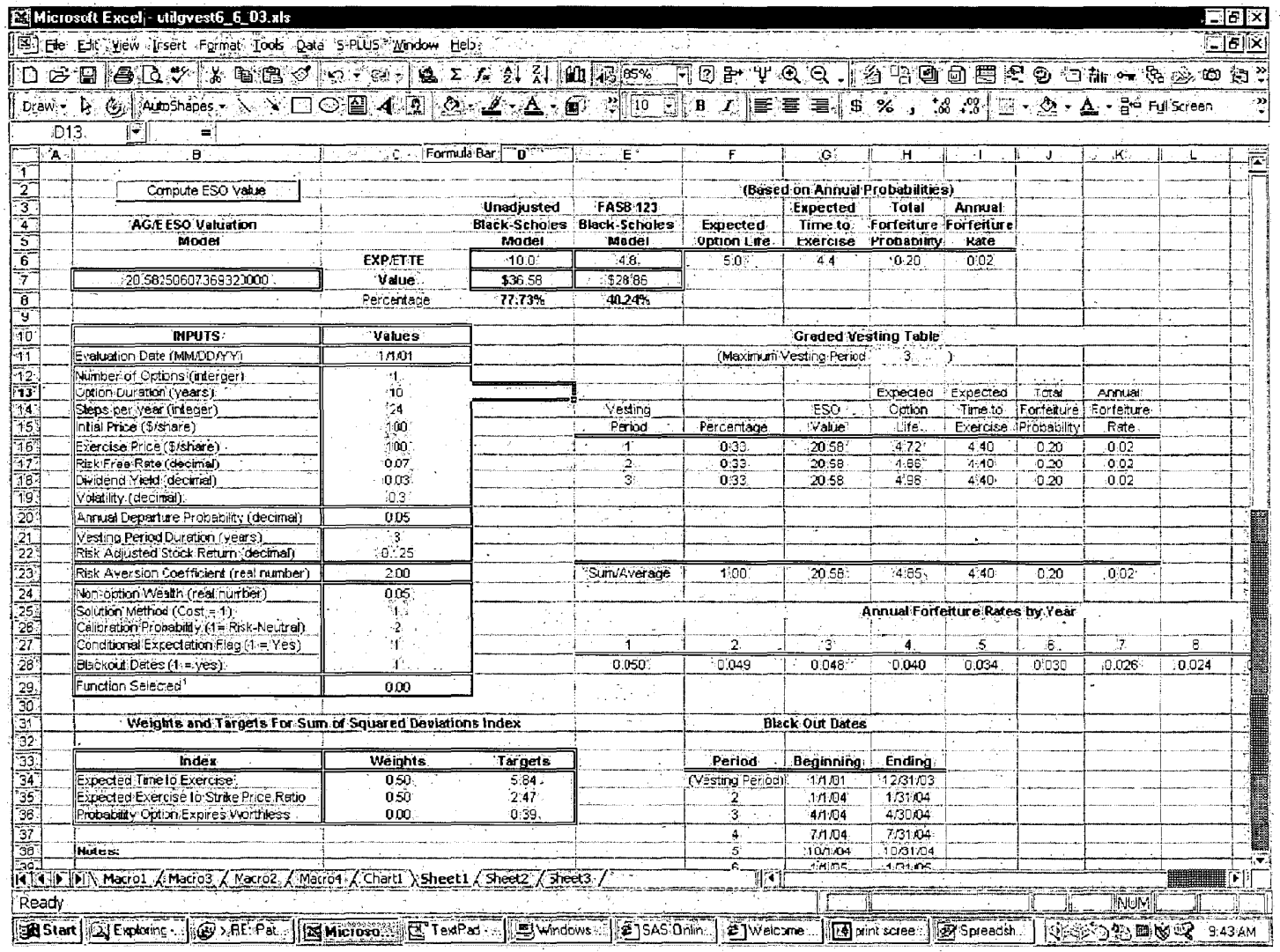

110
120
130
140
Inputs
Maturity
Volatility
Dividend Yield
Stock Price
Strike Price
Risk-free Rate
Vesting Period
Departure Rate
ESO Binomial Module
Output predictions of exercise behavior equal observed data?
Yes
Output ESO Value
No
Adjust Calibration Parameters
150

FIG. 2



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D13 =

Compute ESO Value

AG/E ESO Valuation Model		Unadjusted Black-Scholes Model	FAS8 123 Black-Scholes Model	Expected Option Life	Expected Time to Exercise	Total Forfeiture Probability	Annual Forfeiture Rate
	EXP/ETTE	10.0	4.8	5.0	4.4	0.20	0.02
20.5825060736932000	Value	$36.58	$28.86				
	Percentage	77.73%	40.24%				

(Based on Annual Probabilities)

INPUTS	Values
Evaluation Date (MM/DD/YY)	1/1/01
Number of Options (integer)	1
Option Duration (years)	10
Steps per Year (integer)	24
Initial Price ($/share)	100
Exercise Price ($/share)	100
Risk-Free Rate (decimal)	0.07
Dividend Yield (decimal)	0.03
Volatility (decimal)	0.3
Annual Departure Probability (decimal)	0.05
Vesting Period Duration (years)	3
Risk Adjusted Stock Return (decimal)	0.125
Risk Aversion Coefficient (real number)	2.00
Non-option Wealth (real number)	0.05
Solution Method (Cost = 1)	1
Calibration Probability (1= Risk-Neutral)	2
Conditional Expectation Flag (1= Yes)	1
Blackout Dates (1 = yes)	1
Function Selected	0.00

Graded Vesting Table

(Maximum Vesting Period 3)

Vesting Period	Percentage	ESO Value	Expected Option Life	Expected Time to Exercise	Total Forfeiture Probability	Annual Forfeiture Rate
1	0.33	20.58	4.72	4.40	0.20	0.02
2	0.33	20.58	4.86	4.40	0.20	0.02
3	0.33	20.58	4.98	4.40	0.20	0.02
Sum/Average	1.00	20.58	4.85	4.40	0.20	0.02

Annual Forfeiture Rates by Year

1	2	3	4	5	6	7	8
0.050	0.049	0.048	0.040	0.034	0.030	0.026	0.024

Weights and Targets For Sum of Squared Deviations Index

Index	Weights	Targets
Expected Time to Exercise	0.50	5.84
Expected Exercise to Strike Price Ratio	0.50	2.47
Probability Option Expires Worthless	0.00	0.39

Black Out Dates

Period	Beginning	Ending
(Vesting Period)	1/1/01	12/31/03
2	1/1/04	1/31/04
3	4/1/04	4/30/04
4	7/1/04	7/31/04
5	10/1/04	10/31/04
6	1/1/05	1/31/05

Notes:

Macro1 Macro3 Macro2 Macro4 Chart1 Sheet1 Sheet2 Sheet3

Ready NUM

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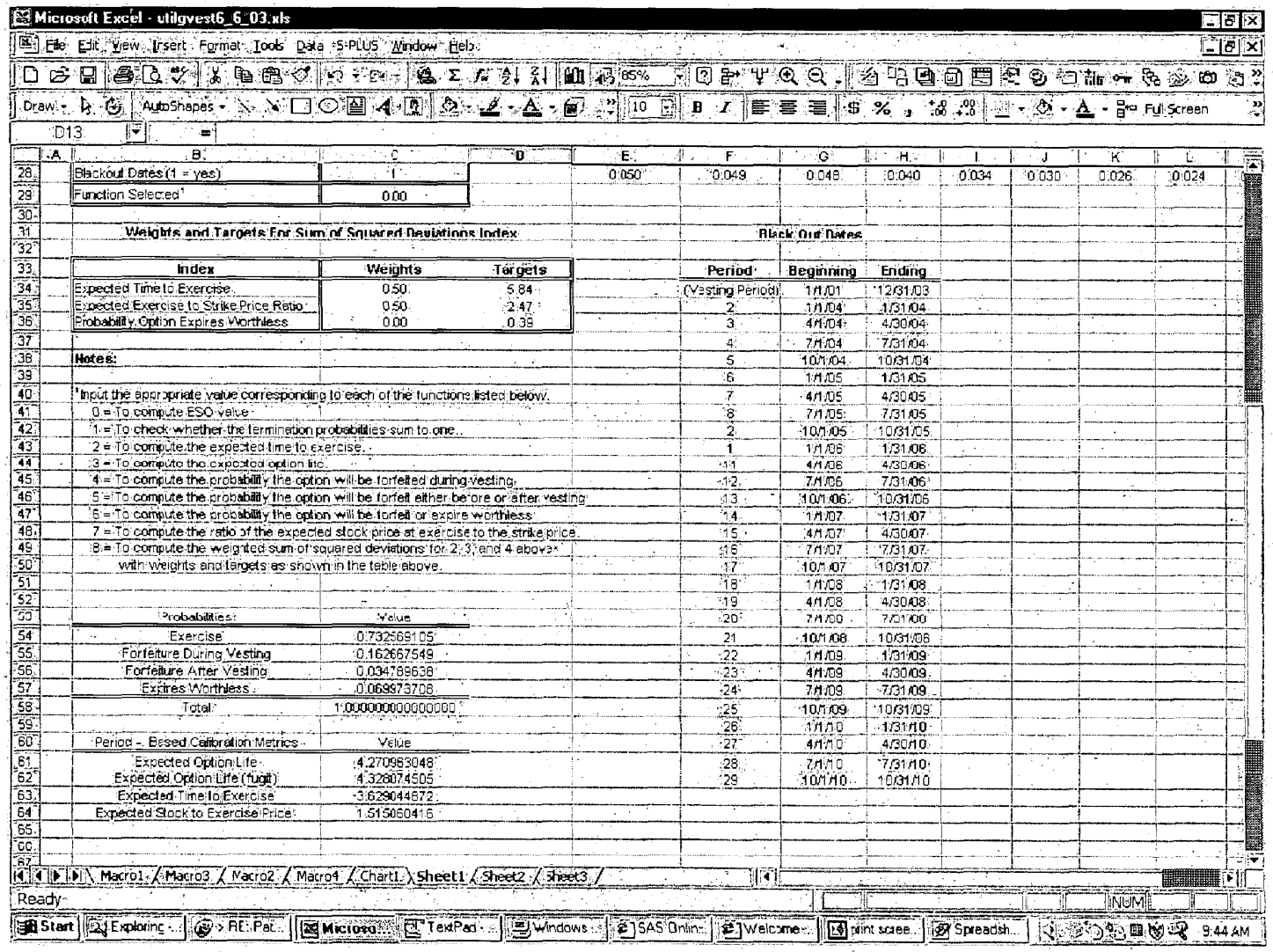
FIG. 3


Microsoft Excel - utilgvest6_6_03.xls
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D13
Blackout Dates (1 = yes) 1
Function Selected 0.00
Weights and Targets For Sum of Squared Deviations Index
Index | Weights | Targets
Expected Time to Exercise | 0.50 | 5.84
Expected Exercise to Strike Price Ratio | 0.50 | 2.47
Probability Option Expires Worthless | 0.00 | 0.39
Notes:
Input the appropriate value corresponding to each of the functions listed below.
0 = To compute ESO value
1 = To check whether the termination probabilities sum to one.
2 = To compute the expected time to exercise.
3 = To compute the expected option life.
4 = To compute the probability the option will be forfeited during vesting.
5 = To compute the probability the option will be forfeit either before or after vesting.
6 = To compute the probability the option will be forfeit or expire worthless.
7 = To compute the ratio of the expected stock price at exercise to the strike price.
8 = To compute the weighted sum of squared deviations for 2, 3, and 4 above with weights and targets as shown in the table above.
Probabilities: Value
Exercise 0.732569105
Forfeiture During Vesting 0.162667549
Forfeiture After Vesting 0.034789638
Expires Worthless 0.069973708
Total 1.000000000000000
Period - Based Calibration Metrics Value
Expected Option Life 4.270963048
Expected Option Life (fugit) 4.328074505
Expected Time to Exercise 3.629044672
Expected Stock to Exercise Price 1.515060416
0.050 0.049 0.048 0.040 0.034 0.030 0.026 0.024
Black Out Dates
Period Beginning Ending
(Vesting Period) 1/1/01 12/31/03
2 1/1/04 1/31/04
3 4/1/04 4/30/04
4 7/1/04 7/31/04
5 10/1/04 10/31/04
6 1/1/05 1/31/05
7 4/1/05 4/30/05
8 7/1/05 7/31/05
9 10/1/05 10/31/05
10 1/1/06 1/31/06
11 4/1/06 4/30/06
12 7/1/06 7/31/06
13 10/1/06 10/31/06
14 1/1/07 1/31/07
15 4/1/07 4/30/07
16 7/1/07 7/31/07
17 10/1/07 10/31/07
18 1/1/08 1/31/08
19 4/1/08 4/30/08
20 7/1/08 7/31/08
21 10/1/08 10/31/08
22 1/1/09 1/31/09
23 4/1/09 4/30/09
24 7/1/09 7/31/09
25 10/1/09 10/31/09
26 1/1/10 1/31/10
27 4/1/10 4/30/10
28 7/1/10 7/31/10
29 10/1/10 10/31/10
Macro1 Macro3 Macro2 Macro4 Chart1 Sheet1 Sheet2 Sheet3
Ready
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